



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

RD

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/383,828	08/27/1999	EVREN ERYUREK	R11.12-0685	7087

7590 04/10/2002

JUDSON K CHAMPLIN  
WESTMAN CHAMPLIN & KELLY P A  
SUITE 1600 INTERNATIONAL CENTRE  
900 SECOND AVENUE SOUTH  
MINNEAPOLIS, MN 554023319

EXAMINER

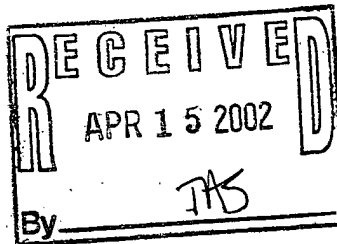
KIM, PAUL L

ART UNIT PAPER NUMBER

2857

DATE MAILED: 04/10/2002

Please find below and/or attached an Office communication concerning this application or proceeding.



JJW ✓

DOCKETED	
RESPONSE DUE	7-10-02
CALENDARED	
CHECKED BY ATTY	10-10-02

# Office Action Summary

Application No.

09/383,828

Applicant(s)

ERYUREK ET AL.

Examiner

Paul L Kim

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-89 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-89 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 2857

## DETAILED ACTION

### *Election/Restrictions*

1. In view of Applicants' remarks filed February 11, 2002, the Examiner withdraws the restriction requirement of the previous office action.

### *Double Patenting*

2. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

3. Claims 1-36, 38-57, 59-65, 67, and 68 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-65 of copending Application No. 09/257,896. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

Art Unit: 2857

1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 69, 70, 74-78, 80, 82, and 84-86 are provisionally rejected under the judicially created doctrine of double patenting over claims 1 and 4 of copending Application No. 09/257,896. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

With regard to claims 69, 77, 78, and 80, claim 1 of Application No. 09/257,896 discloses a differential pressure sensor, impulse piping, memory, measurement circuitry, computational circuitry, diagnostic circuitry, and output circuitry. Claim 4 of Application No. 09/257,896 discloses a trained data set containing statistical data.

With regard to claims 70 and 82, SN 09/257,896 discloses the statistical parameter comprising standard deviation (claim 59).

With regard to claims 74 and 84, SN 09/257,896 discloses the primary element comprising an orifice plate (claim 20).

With regard to claims 75 and 85, SN 09/257,896 discloses the primary element comprising a bluff body (claim 19).

With regard to claims 76 and 86, SN 09/257,896 discloses the primary element comprising a venturi tube (claim 18).

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

8. Claims 1, 2, 4-10, 21, 22, 26, 28, 29-34, 38, 39, 41-47, 59-61, 67-69, 70, 77, 78, 80, 82, 87, and 88 are rejected under 35 U.S.C. 102(e) as being anticipated by Dutton.

Art Unit: 2857

With regard to claims 1, 2, 38, 39, 59, 67, Dutton teaches a pressure transmitter (fig. 1) and instructions for a computer readable medium (col. 8, lines 42-44) comprising: pressure sensors (fig. 1, part 105), an AD converter (fig. 2, part 203), a microprocessor system (fig. 2), a first algorithm that calculates a difference between a series of digital representations and a moving average of the series of digital representations (fig. 7, part P710 & P712), a second algorithm that calculates a trained set of historical data and generates diagnostic data as a function of current data relative to the historical data (col. 3, lines 4-7), a DA converter (fig. 2, part 202), and a digital communication circuit (fig. 2, part 26).

With regard to claim 4, Dutton teaches the trained data comprising statistical data (col. 3, lines 12-15).

With regard to claims 5, 29, and 42, Dutton teaches the microprocessor system switching from the training to the monitoring mode (col. 6, lines 53-55).

With regard to claim 6, Dutton teaches the microprocessor system storing the trained data in the training mode (col. 8, lines 42-54).

With regard to claims 7-9, 31-33, and 44-46, Dutton teaches the diagnosis data indicating real time conditions of fluid flow elements (col. 3, lines 2-7).

With regards to claims 10, 34, and 47, Dutton teaches the flow output comprising a calibrated output and determining whether the pressure generator is out of calibration (col. 11, lines 33-39).

With regard to claims 21, 22, 26, and 68, Dutton teaches a pressure transmitter comprising: a pressure sensor (fig. 1, part 105), a flow circuit coupled to the sensor (fig.

1, part 20), a difference circuit that generates an output that is based on a difference between a sensed pressure and a moving average (fig. 7, part P712), a calculate circuit that calculates a difference between historical data and current data (col. 3, lines 4-7), and a diagnostic circuit (fig. 2, part 26).

With regard to claims 28, 41, and 60, Dutton teaches the historic data comprises statistical data (col. 3, lines 12-15).

With regard to claims 30 and 43, Dutton teaches the calculate circuit storing historic data in the monitoring mode (fig. 2, parts 201 & 230).

With regard to claim 61, Dutton teaches the current data set comprising data on the sample average and deviation of the calculated difference (col. 7, lines 48-55).

With regard to claims 69, 77, 78, 80, 87, and 88, Dutton teaches a pressure transmitter comprising: a sensor (fig. 1, part 105), an impulse piping configured to couple the sensor to the flow (fig. 1, part 103), a measurement circuitry (fig. 1, part 20), a computation circuitry that calculates a statistical parameter of the sensor output (col. 3, lines 12-16), a memory that contains a baseline statistical parameter (fig. 2, part 230), a diagnostic circuitry configured to compare the statistical parameters and provide diagnostics if the difference exceeds a threshold (col. 7, lines 51-55), and an output circuitry (fig. 2, part 26).

With regard to claim 70, Dutton teaches the statistical data comprising standard deviation (col. 7, lines 55-56).

With regard to claim 82, Dutton teaches the step of calculating comprises calculating standard deviation (col. 7, lines 55-56).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 13-20, 50-57, 73-76, and 83-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dutton in view of Shanahan et al.

With regard to claims 13-15 and 50-52, Dutton does not teach the pressure transmitter being adapted to an averaging pitot tube. Shanahan et al teaches that pitot tubes in a fluid flow system are well known in the art (col. 1, lines 21-23). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Shanahan et al, so that the pressure transmitter is adapted to an averaging pitot tube, in order to be able to measure fluid flow correctly.

With regard to claims 16 and 53, Dutton teaches the pressure transmitter further comprising a manifold coupled between the pressure generator and sensor (fig. 1, part 102).

With regard to claims 17-20, 54-57, 73-76, and 83-86, Dutton does not teach the pressure transmitter being adapted to an orifice, venturi, or a nozzle. Shanahan et al teaches that orifices, venturis, and nozzles connected to a transmitter are well known in the art (col. 1, lines 21-23). It would have been obvious to one of ordinary skill in the art,



Art Unit: 2857

at the time of the invention, to modify Dutton, so that the pressure transmitter is adapted to an orifice, venturi, or a nozzle, in order to be able to measure fluid flow correctly.

11. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dutton in view of Britton et al.

With regard to claim 62, Dutton does not teach a sample average being compared to the mean. Britton et al teaches a pipe flow detector that diagnoses pipe conditions by comparing a sample average to the mean (col. 3, lines 56-61). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Dutton, so that a sample average is compared to the mean, in order to obtain variations of sample flow measurements.

12. Claims 37, 58, 66, 71, 72, 79, 81, and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dutton in further view of Di Marco et al.

With regard to claims 37, 58, 66, 71, 72, 79, 81, and 89, Dutton does not teach a diagnostic algorithm being a neural network, fuzzy logic, wavelet, or Fourier transform. Di Marco et al teaches a fluid flow analyzer where the diagnostic circuit uses fuzzy logic (col. 6, lines 46-50). It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Dutton, so that the diagnostic circuit of the pressure transmitter uses a diagnostic algorithm, such as fuzzy logic, in order to more accurately analyze flow measurements.

***Allowable Subject Matter***

Art Unit: 2857

13. Claims 3, 11, 12, 23-25, 27, 35, 36, 40, 48, 49, and 63-65, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ortiz et al teaches a pressure transmitter for measuring fluid flow by calculating average pressure from multiple transducers.

Jepson et al, Wiklund et al, Eck et al, Segeral et al, and Cummings all teach a system that measures fluid flow through a pipe or conduit.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is 703-305-7468.

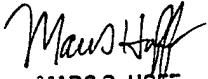
The examiner can normally be reached on Monday-Friday 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 703-305-1677. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-9722 for regular communications and for After Final communications.

Art Unit: 2857

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

PK  
April 5, 2002

  
MARC S. HOFF  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800